State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
401-02B
Bureau of Nonpoint Pollution Control
Division of Water Quality
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CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

BOB MARTIN
Commissioner

August 31, 2011

Derek Berg
200 Enterprise Drive
Scarborough, ME 04074

Re: MTD Laboratory Test Certification for the VortSentry System by CONTECH Construction Products, Inc.

Effective Date: September 1, 2011
Expiration Date: September 1, 2013
TSS Removal Rate: 50%

Dear Mr. Berg:

The Stormwater Management Rules at N.J.A.C. 7:8 allow the use of manufactured treatment devices (MTDs) for compliance with the design and performance standards provided that the pollutant removal rates have been verified by New Jersey Corporation for Advanced Technology, NJCAT, and certified by the New Jersey Department of Environmental Protection (NJDEP).

The certification process was revised through the "Transition for Manufactured Treatment Devices," dated July 15, 2011. NJDEP has determined that VortSentry System by CONTECH Construction Products, Inc. is consistent with the criteria under *A. Manufactured Treatment Devices with Interim Certifications*. Therefore, **NJDEP certifies the use of the VortSentry System by CONTECH Construction Products, Inc. with a 50% TSS removal rate, provided that the project design is consistent with the following conditions:**

1. The model selected for the project design must be sized in accordance with Table 1 and based on the peak flow of the New Jersey Water Quality Design Storm as specified in N.J.A.C. 7:8-5.

2. The VortSentry System can only be used off-line. Any flow above the New Jersey Water Quality Design Storm must utilize an external bypass around the system.

3. A hydrodynamic separator, such as the VortSentry System, cannot be used in series with another hydrodynamic separator to achieve an enhanced removal rate for total suspended solids (TSS) removal under N.J.A.C. 7:8-5.5.

4. The maintenance plan for the sites using this device shall incorporate at a minimum, the maintenance requirements for the VortSentry System, attached.

Table 1

New Jersey Treatment Rates for VortSentry Models Based on a Surface Area Secific Loading Rate of 39.31gpm/ft^2		
VortSentry Model	Manhole Diameter (ft)	Treatment Flow Rate (cfs)
VS30	3	0.62
VS40	4	1.10
VS50	5	1.72
VS60	6	2.48
VS70	7	3.37
VS80	8	4.40
VS100	10	6.88
VS120	12	9.90

In addition to the attached, any project with a Stormwater BMP subject to the Stormwater Management Rules, N.J.A.C. 7:8, must include a detailed maintenance plan. The detailed maintenance plan must include all of the items identified in Stormwater Management Rules, N.J.A.C. 7:8-5.8. Such items include, but are not limited to, the list of inspection and maintenance equipment and tools, specific corrective and preventative maintenance tasks, indication of problems in the system, and training of maintenance personnel. Additional information can be found in Chapter 8: Maintenance of the New Jersey Stormwater Best Management Manual.

NJDEP anticipates proposing further adjustments to this process through the readoption of the Stormwater Management Rules. Additional information regarding the implementation of the Stormwater Management Rules N.J.A.C. 7:8 are available at www.njstormwater.org. If you have any questions regarding the above information, please contact Ms. Sandra Blick of my office at (609) 633-7021.

Sincerely,

Ed Frankel, P.P., Acting Bureau Chief
Bureau of Nonpoint Pollution Control

C: Richard S. Magee, NJCAT
Chron file

VortSentry® Maintenance

The VortSentry system should be inspected at regular intervals and maintained when necessary to ensure optimum performance. The rate at which the system collects pollutants will depend more heavily on site activities than the size of the unit, i.e., unstable soils or heavy winter sanding will cause the treatment chamber to fill more quickly but regular sweeping will slow accumulation.

Inspection

Inspection is the key to effective maintenance and is easily performed. Pollutant deposition and transport may vary from year to year and regular inspections will help ensure that the system is cleaned out at the appropriate time. At a minimum, inspections should be performed twice per year (i.e. spring and fall) however more frequent inspections may be necessary in equipment washdown areas and in climates where winter sanding operations may lead to rapid accumulations. It is useful and often required as part of a permit to keep a record of each inspection. A simple inspection and maintenance form for doing so is available at www.contechstormwater.com.

The VortSentry should be cleaned when the sediment has accumulated to a depth of three feet in the treatment chamber. This determination can be made by taking two measurements with a stadia rod or similar measuring device; one measurement from the manhole opening to the top of the sediment pile and the other from the manhole opening to the water surface. If the difference between these measurements is less than the distance given in Table 1, the VortSentry should be maintained to ensure effective treatment.

Cleaning

Cleaning of the VortSentry should be done during dry weather conditions when no flow is entering the system. Cleanout of the VortSentry with a vacuum truck is generally the most effective and convenient method of excavating pollutants from the system. Simply remove the manhole cover and insert the vacuum hose into the sump. All pollutants can be removed from this one access point from the surface with no requirements for Confined Space Entry.

In installations where the risk of petroleum spills is small, liquid contaminants may not accumulate as quickly as sediment. However, an oil or gasoline spill should be cleaned out immediately. Motor oil and other hydrocarbons that accumulate on a more routine basis should be removed when an appreciable layer has been captured. To remove these pollutants, it may be preferable to use adsorbent pads, which solidify the oils. These are usually much easier to remove from the unit individually, and less expensive to dispose than the oil/water emulsion that may be created by vacuuming the oily layer. Floating trash can be netted out if you wish to separate it from the other pollutants.

Manhole covers should be securely seated following cleaning activities to prevent leakage of runoff into the system from above and also to ensure proper safety precautions. If anyone physically enters the unit, Confined Space Entry procedures need to be followed.

Disposal of all material removed from the VortSentry should be done is accordance with local regulations. In many locations, disposal of evacuated sediments may be handled in the same manner as disposal of sediments removed from catch basins or deep sump manholes. Check your local regulations for specific requirements on disposal.

VortSentry Model	Diameter		Distance from Water Surface to Top of Sediment Pile		Sediment Storage Capacity	
	ft	m	ft	m	yd^3	m^3
VS30	3	0.9	2.5	0.8	0.8	0.6
VS40	4	1.2	3.7	1.1	1.4	1.1
VS50	5	1.5	4.5	1.4	2.2	1.7
VS60	6	1.8	5.5	1.6	3.1	2.4
VS70	7	2.1	6.4	2.0	4.3	3.3
VS80	8	2.4	7.2	2.2	5.6	4.3

Table 1: VortSentry Maintenance Indicators and Sediment Storage Capacities.

VortSentry Inspection & Maintenance Log

VortSentry Model: _____ Location: _____

Date	Water depth to sediment[1]	Floatable Layer Thickness[2]	Describe Maintenance Performed	Maintenance Personnel	Comments

1. The water depth to sediment is determined by taking two measurements with a stadia rod: one measurement from the manhole opening to the top of the sediment pile and the other from the manhole opening to the water surface. If the difference between these measurements is less than the distance given in Table 1, the system should be cleaned out. **Note: To avoid underestimating the volume of sediment in the chamber, the measuring device must be carefully lowered to the top of the sediment pile.**

2. For optimum performance, the system should be cleaned out when the floating hydrocarbon layer accumulates to an appreciable thickness. In the event of an oil spill, the system should be cleaned immediately.